

## Claims

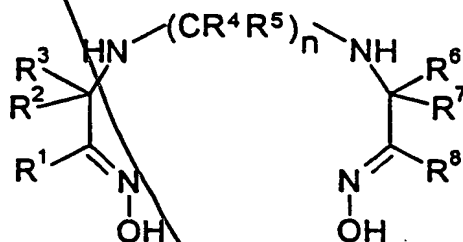
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1. Process for therapeutic treatment of proliferative diseases, characterized in that first an administration catheter is placed on the site of the lesion, and a radioactive substance is administered topically via the catheter, then the catheter is removed, and the radioactive substance remains on the site of the lesion.

2. Process for therapeutic treatment of arteriosclerotic diseases, wherein first an administration catheter is placed on the site of the lesion, and a radioactive substance is administered topically via the catheter, then the catheter is removed, and the radioactive substance remains on the site of the lesion.

3. Process according to claim 1 or 2, wherein the radioactive substance is a metal complex.

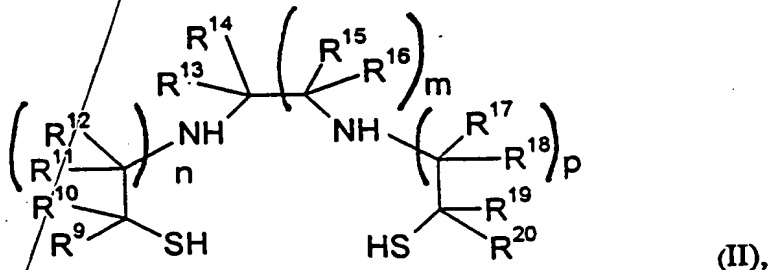
4. Process according to claim 1 or 2, wherein the radioactive substance is a metal complex, whose ligand is a bis-amine-oxime derivative of general formula I,



(I)

in which  $n = 0 - 3$ , and radicals  $R^1$  to  $R^8$  are the same or different and in each case stand for a hydrogen atom and/or for an unbranched, branched, cyclic or polycyclic  $C_1-C_{100}$  alkyl,  $C_1-C_{100}$  alkenyl,  $C_1-C_{100}$  alkynyl,  $C_1-C_{100}$  aryl,  $C_1-C_{100}$  alkylaryl and/or  $C_1-C_{100}$  arylalkyl radical, which optionally is substituted with fluorine, chlorine, bromine and/or iodine atoms, and/or hydroxy, oxo, carboxy, aminocarbonyl, alkoxy, amino, aldehyde or alkoxy groups with up to 30 carbon atoms and/or optionally is interrupted and/or substituted by one or more heteroatoms from the series N, P, As, O, S, Se, and whereby radicals  $R^2$  and  $R^3$ ,  $R^4$  and  $R^5$  as well as  $R^6$  and  $R^7$  together optionally can stand for an oxygen atom, and whose central atom is a radionuclide of the elements of atomic numbers 27, 29-32, 37-39, 42-51, 62, 64, 70, 75, 77, 82 or 83.

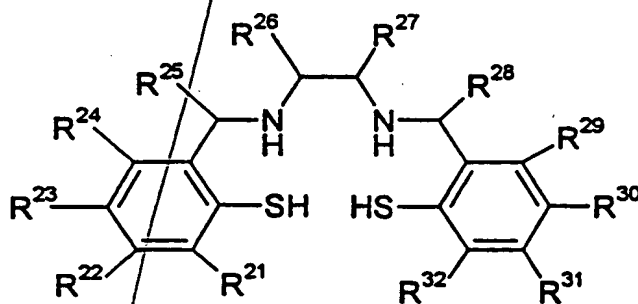
5. Process according to claim 1 ~~or 2~~, wherein the radioactive substance is a metal complex, whose ligand is an  $N_2S_2$  derivative of general formula II,



whereby  $R^9$  to  $R^{20}$  are the same or different and in each case stand for a hydrogen atom and/or for an unbranched, branched, cyclic or polycyclic  $C_1-C_{100}$  alkyl,  $C_1-C_{100}$  alkenyl,  $C_1-C_{100}$  alkynyl,  $C_1-C_{100}$  aryl,  $C_1-C_{100}$  alkylaryl and/or  $C_1-C_{100}$  arylalkyl radical, which

optionally is substituted with fluorine, chlorine, bromine and/or iodine atoms and/or hydroxy, oxo, carboxy, aminocarbonyl, alkoxycarbonyl, amino, aldehyde or alkoxy groups with up to 30 carbon atoms, and/or optionally is interrupted and/or substituted by one or more heteroatoms from the series N, P, As, O, S, Se, and whereby radicals  $R^{11}$  and  $R^{12}$ ,  $R^{13}$  and  $R^{14}$ ,  $R^{15}$  and  $R^{16}$  as well as  $R^{17}$  and  $R^{18}$  together optionally can stand for an oxygen atom, and n, m and p, independently of one another, mean 1 or 2, and whose central atom is a radionuclide of the elements of atomic numbers 27, 29-32, 37-39, 42-51, 62, 64, 70, 75, 77, 82 or 83.

6. Process according to claim 1 ~~or 2~~, wherein the radioactive substance is a metal complex, whose ligand is an  $N_2S_2$  derivative of general formula III,



(III)

whereby  $R^{21}$  to  $R^{32}$  are the same or different and in each case stand for a hydrogen atom and/or for an unbranched, branched, cyclic or polycyclic  $C_1$ - $C_{100}$  alkyl,  $C_1$ - $C_{100}$  alkenyl,  $C_1$ - $C_{100}$  alkynyl,  $C_1$ - $C_{100}$  aryl,  $C_1$ - $C_{100}$  alkylaryl and/or  $C_1$ - $C_{100}$  arylalkyl radical,

which optionally is substituted with fluorine, chlorine, bromine and/or iodine atoms and/or hydroxy, oxo, carboxy, aminocarbonyl, alkoxycarbonyl, amino, aldehyde or alkoxy groups with up to 30 carbon atoms, and/or optionally is interrupted and/or substituted by one or more heteroatoms from the series N, P, As, O, S, Se, and whose central atom is a radionuclide of the elements of atomic numbers 27, 29-32, 37-39, 42-51, 62, 64, 70, 75, 77, 82 or 83.

7. Process according to claim 4, ~~5, or 6~~, wherein a central atom, which is selected from the group  $^{99m}\text{Tc}$ ,  $^{186}\text{Re}$ ,  $^{188}\text{Re}$ ,  $^{67}\text{Cu}$ ,  $^{90}\text{Y}$  and  $^{107}\text{Ag}$ , contains the metal complex that is used.

8. Process according to claim 1 ~~or 2~~, wherein the radioactive substance is a metal complex, whose ligand is a porphyrin derivative.

9. Process according to claim 1 ~~or 2~~, wherein the radioactive substance is a thallium compound of isotopes  $^{201}\text{Tl}$ ,  $^{207}\text{Tl}$ ,  $^{209}\text{Tl}$  and  $^{210}\text{Tl}$ .

10. Process according to claim 1 ~~or 2~~, wherein the radioactive substance is  $^{201}\text{TlCl}$ .

11. Process according to claim 1 ~~or 2~~, wherein the radioactive substance is a tetrofosmin derivative.

12. Process according to claim 1 ~~or 2~~, wherein the radioactive substance is a sestamibi derivative.

13. Process according to claim 1 ~~or 2~~, wherein the radioactive substance is a furifosmin derivative.

14. Process according to claim 1 ~~or 2~~, wherein

a

o

a

$\frac{1}{2} \frac{d}{dt} \int_{\mathbb{R}^n} |u|^2 dx = \int_{\mathbb{R}^n} u \frac{d}{dt} u dx = \int_{\mathbb{R}^n} u \frac{d}{dt} \left( \frac{1}{2} \frac{d}{dt} \int_{\mathbb{R}^n} |u|^2 dx \right) dx = \frac{1}{2} \frac{d}{dt} \int_{\mathbb{R}^n} |u|^2 dx$

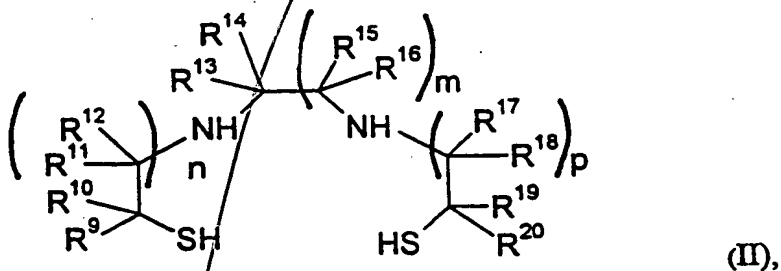
$$\begin{array}{c} \text{R}^3 \\ \text{R}^2 \\ \text{R}^1 \end{array} \text{C} = \text{N}(\text{OH}) - (\text{CR}^4\text{R}^5)_n - \text{NH} - \begin{array}{c} \text{R}^6 \\ \text{R}^7 \\ \text{R}^8 \end{array} \text{C} = \text{N}(\text{OH})$$
 $\mathbb{Q}$ ,

in which  $n = 0 - 3$ , and radicals  $R^1$  to  $R^8$  are the same or different and in each case stand for a hydrogen atom and/or for an unbranched, branched, cyclic or polycyclic  $C_1-C_{100}$  alkyl,  $C_1-C_{100}$  alkenyl,  $C_1-C_{100}$  alkynyl,  $C_1-C_{100}$  aryl,  $C_1-C_{100}$  alkylaryl and/or  $C_1-C_{100}$  arylalkyl radical, which optionally is substituted with fluorine, chlorine, bromine and/or iodine atoms and/or hydroxy, oxo, carboxy, aminocarbonyl, alkoxy carbonyl, amino, aldehyde or alkoxy groups with up to 30 carbon atoms and/or optionally is interrupted and/or substituted by one or more heteroatoms from the series N, P, As, O, S, Se, and whereby radicals  $R^2$  and  $R^3$ ,  $R^4$  and  $R^5$  as

well as  $R^6$  and  $R^7$  together optionally can stand for an oxygen atom,

and whose central atom is a radionuclide of the elements of atomic numbers 27, 29-32, 37-39, 42-51, 62, 64, 70, 75, 77, 82 or 83, for the production of agents that are administered topically in the treatment of proliferative diseases.

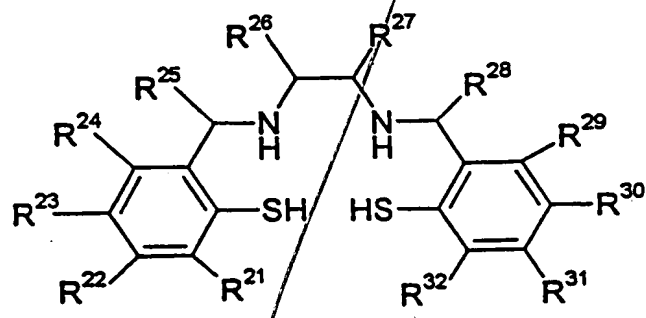
19. Use of complexes whose ligand is an  $N_2S_2$  derivative of general formula II



whereby  $R^9$  to  $R^{20}$  are the same or different and in each case stand for a hydrogen atom and/or for an unbranched, branched, cyclic or polycyclic  $C_1$ - $C_{100}$  alkyl,  $C_1$ - $C_{100}$  alkenyl,  $C_1$ - $C_{100}$  alkynyl,  $C_1$ - $C_{100}$  aryl,  $C_1$ - $C_{100}$  alkylaryl and/or  $C_1$ - $C_{100}$  arylalkyl radical, which optionally is substituted with fluorine, chlorine, bromine and/or iodine atoms and/or hydroxy, oxo, carboxy, aminocarbonyl, alkoxycarbonyl, amino, aldehyde or alkoxy groups with up to 30 carbon atoms and/or optionally is interrupted and/or substituted by one or more heteroatoms from the series N, P, As, O, S, Se and whereby radicals  $R^{11}$  and  $R^{12}$ ,  $R^{13}$  and  $R^{14}$ ,  $R^{15}$  and  $R^{16}$ , as well as  $R^{17}$  and  $R^{18}$  together optionally can stand for an oxygen atom, and n, m and p, independently of one another, mean 1 or 2, and whose central atom is a radionuclide of the elements of atomic numbers

27, 29-32, 37-39, 42-51, 62, 64, 70, 75, 77, 82 or 83, for the production of agents that are administered topically in the treatment of proliferative diseases.

20. Use of complexes whose ligand is an  $N_2S_2$  derivative of general formula III



(III),

whereby  $R^{21}$  to  $R^{32}$  are the same or different and in each case stand for a hydrogen atom and/or for an unbranched, branched, cyclic or polycyclic  $C_1$ - $C_{100}$  alkyl,  $C_1$ - $C_{100}$  alkenyl,  $C_1$ - $C_{100}$  alkynyl,  $C_1$ - $C_{100}$  aryl,  $C_1$ - $C_{100}$  alkylaryl and/or  $C_1$ - $C_{100}$  arylalkyl radical, which optionally is substituted with fluorine, chlorine, bromine and/or iodine atoms and/or hydroxy, oxo, carboxy, aminocarbonyl, alkoxycarbonyl, amino, aldehyde or alkoxy groups with up to 30 carbon atoms and/or optionally is interrupted and/or substituted by one or more heteroatoms from the series N, P, As, O, S, Se, and whose central atom is a radionuclide of the elements of atomic numbers 27, 29-32, 37-39, 42-51, 62, 64, 70, 75, 77, 82 or 83, for the production of agents that are administered topically in the treatment of proliferative diseases.

21. Use of compounds according to one of ~~claims 18 to 20~~,<sup>claim 18</sup> wherein the radionuclide is selected from the group  $^{99m}\text{Tc}$ ,  $^{186}\text{Re}$ ,  $^{188}\text{Re}$ ,  $^{67}\text{Cu}$ ,  $^{90}\text{Y}$  and  $^{107}\text{Ag}$ .

22. Use of colloidal solutions for the production of agents for the treatment of proliferative diseases, wherein the colloidal solution is labeled with a radionuclide of elements Ag, As, At, Au, Ba, Bi, Br, C, Co, Cr, Cu, F, Fe, Ga, Gd, Hg, Ho, I, In, Ir, Lu, Mn, N, O, P, Pb, Pd, Pm, Re, Rh, Ru, Sb, Sc, Se, Sm, Sn, Tb, Tc or Y.

23. Use of colloidal solutions according to claim 22, wherein the colloidal solution is labeled with a radionuclide that is selected from the group  $^{99m}\text{Tc}$ ,  $^{186}\text{Re}$ ,  $^{188}\text{Re}$ ,  $^{67}\text{Cu}$ ,  $^{90}\text{Y}$ ,  $^{153}\text{Sm}$ ,  $^{160}\text{Tb}$ ,  $^{162}\text{Tb}$ ,  $^{198}\text{Au}$  and  $^{107}\text{Ag}$ .

24. Use of colloidal solutions according to claim 22, wherein the colloid is produced by a redox reaction in the presence of a radioactive salt.

25. Use of colloidal solutions according to claim 22, wherein the colloid is produced by changing the pH in an aqueous or alcoholic solution in the presence of a radioactive salt.

26. Use of colloidal solutions according to claim 22, wherein the particle size of the colloidal particles is between 5 and 1000 nm.

27. Use of colloidal solutions according to claim 22, wherein the particle size of the colloidal particles is between 300 and 600 nm.



28. Use of colloidal solutions according to claim 22, wherein the colloidal solution is stabilized with the aid of surfactants or other amphiphilic substances.

29. Use of radiolabeled sulfur colloids for the production of agents for the treatment of proliferative diseases.

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Ins B1